WHAT IS CLAIMED IS:

1. An echo cancellation circuit coupled between a transmitter and a receiver, the echo cancellation circuit comprising:

a first branch including real and imaginary impedances coupled between the transmitter and the receiver; and

a second branch including real and imaginary impedances coupled between the transmitter and the receiver.

2. The echo cancellation circuit of claim 1 wherein the first branch includes a resistor and a capacitor coupled together in series.

3. The echo cancellation circuit of claim 2 wherein the second branch includes a first resistor coupled in series with a capacitor and a second resistor coupled in parallel with the first resistor and the capacitor.

4. The echo cancellation circuit of claim 3 wherein the echo cancellation circuit is implemented in a transmitter/receiver circuit which has a terminating resistor and a transformer coupled to a transmission line.

5. The echo cancellation of claim 4 wherein a total impedance of the first branch is proportional to a combined impedance of the transformer and the transmission line combination over a range of frequencies.

6. The echo cancellation circuit of claim 5 wherein a total impedance of the second branch is proportional to a sum of the combined impedance of the transformer and transmission line combination and an impedance of the terminating resistor over a range of frequencies.

7. The echo cancellation circuit of claim 6 wherein the range of frequencies is 0 kHz to 10 kHz.

8. The echo cancellation circuit of claim 1 wherein the second branch includes a first resistor coupled in series with a capacitor and a second resistor coupled in parallel with the first resistor and the capacitor.

9. An echo cancellation circuit coupled between a transmitter and a receiver, the echo cancellation circuit comprising:

a first branch including real and imaginary impedances coupled between the transmitter and the receiver;

a second branch including real and imaginary impedances coupled between the transmitter and the receiver;

a third branch including real and imaginary impedances coupled between the transmitter and the receiver; and

a fourth branch including real and imaginary impedances coupled between the transmitter and the receiver.

10. The echo cancellation circuit of claim 9 wherein the first branch and the third branch each include a resistor and a capacitor coupled together in series.

11. The echo cancellation circuit of claim 10 wherein the second branch and the fourth branch each include a first resistor coupled in series with a capacitor and a second resistor coupled in parallel with the first resistor and the capacitor.

12. The echo cancellation circuit of claim 11 which is implemented in a transmitter/receiver circuit which has a terminating resistor and a transformer coupled to a transmission line.

13. The echo cancellation of claim 12 wherein a total impedance of each of the first branch and the third branch is

proportional to a combined impedance of the transformer and transmission line combination.

14. The echo cancellation circuit of claim 13 wherein a total impedance of each of the second branch and the fourth branch is proportional to a sum of the combined impedance of the transformer and transmission line combination and the impedance of the terminating resistor.

15. A method of receiving an input signal and canceling an output transmission signal comprising:

transmitting the output transmission signal over a first terminal and a second terminal;

receiving the input signal over a third terminal and a forth terminal;

attenuating a first part of the transmitting signal through a first complex impedance; and

attenuating a second part of the transmitting signal through a second complex impedance.

16. The method of claim 15 further comprising:

further comprising matching a line impedance through a first terminating resistance and a second terminating resistance.

17. The method of claim 16 further wherein attenuating the first part of the transmitting signal comprises dividing of a voltage of the first part of the transmitting signal.

18. The method of claim 17 wherein the dividing involves the first complex impedance being proportional to a combination of the line impedance and an impedance of the first terminating resistance line impedance.

19. The method of claim 16 wherein attenuating the second part of the transmitting signal comprises dividing of a voltage of the second part of the transmitting signal.

20. The method of claim 19 wherein dividing involves the second complex impedance being proportional to a line combination of the line impedance and an impedance of the second terminating resistance impedance.

21. The method of claim 15 further comprising amplifying the input signal.